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09/661,428	09/13/2000	Toshikazu Hori	21.1967/WMS	8410

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STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER	
LE, BRIAN Q	
ART UNIT	PAPER NUMBER
2623	

DATE MAILED: 05/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/661,428	HORI ET AL.	
	Examiner	Art Unit	
	Brian Q. Le	2623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 03/07/2005 has been entered.

Response to Amendment and Arguments

2. Applicant's arguments with regard to claims 1-20 have been fully considered, but are not considered persuasive because of the following reasons:

For independent claim 1, the Applicant argues (page 9) that the prior art cited by the Examiner does not disclose a feature of two character recognition algorithms being used to find non-coinciding characters. The Applicant further argues (bottom of page 9) the reason that the cited art does not teach this concept because the teaching of misrecognized characters is not the same of non-coinciding characters since "coincide" is "to be in accord or agreement or concur" based on Merriam Webster Online Dictionary. While the Applicant made a correct statement regarding the meaning of "coincide", the prior art, Hotta U.S. Patent No. 6,345,119 still teaches this amended limitation at column 16, lines 55-60 and FIG. 14. Hotta clearly teaches a concept of recognizing character (cluster of characters) wherein results do not match (non-coincide).

For dependent claim 3, the Applicant argues (page 10) that the cited art does not teach the outputting the recognition results by contrasting the text image and the recognition results. The Examiner respectfully disagrees. As discussed in the previous Office Action, Shirasaki teaches this limitation at FIG. 17, C6-C9 and FIG. 44. The Applicant also advised to consider other

portions of the reference column 2, lines 65-67 and column 16, lines 43-50. Applicant's arguments are directed toward various portions of Shirasaki cited by the Examiner. The Examiner points out that the rejections were based upon the entire reference. Therefore, Applicant is urged to consider the reference as a whole. When considering the cited portions within context the whole patent, it is seen that the claimed invention is rendered obvious. In addition, the Applicant may consider amend this claim further to narrow the scope of claim for more specific interpretation.

Thus, the rejections of all of the claims are maintained.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Regarding the independent claims 1-2 and 15-16, the amended limitation "each algorithm producing its own recognized characters from the same text image, where the recognized characters of the respective algorithms are non-coinciding for some corresponding same locations of the text image and coincide for other corresponding same locations of the text image" is not disclosed in the original specification. The concepts of coincide and non-coinciding are supported in specification. However, the original specification does not support

the amended limitation. The Applicant is required to show clearly page number and line number for the support of this amended limitation.

For claim 17, the support for the limitation "identifying areas of the text of the captured image based on discrepancies between respective outputs of the character recognition algorithms that correspond to the areas" also not found in the original disclosure.

Regarding claim 18, the limitation "when a user is editing text of the text image location, **directing the editing to the identified areas**" is also not supported in the original disclosure (emphasis added).

Referring to claim 20, the limitation "displaying characters in the identified areas based on which recognition algorithm had a highest recognition evaluation for the respective characters" is also not supported.

Claims not specifically addressed depend from indefinite antecedent claims.

Claim Objections

5. Claims 1-2, and 15-17 are objected to because these claims are very difficult to understand due to the use of confusing language. Appropriate correction is required. The prior art rejection based on the Examiner's best understanding.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 17-18 are rejected under 35 U.S.C. 102(e) as being anticipated by Hotta U.S. Patent No. 6,345,119.

Regarding claim 17, Hotta teaces a method for recognizing characters in a captured text image, the method comprising:

Providing a first character recognition algorithm and a second character recognition algorithm, where each character recognition outputs its own recognized characters, and where the character recognition algorithms are capable of recognizing same character-images as different recognized characters (please refer back to claim 2 for the teachings and explanation);

Output recognized characters (FIG. 16, element 28) by performing character recognition (FIG. 16, element 23) on the captured text image with each character recognition algorithm; and

Identifying areas of the text of the captured image based on discrepancies (non-matching recognition results) between respective outputs of the character recognition algorithms that correspond to the areas (column 16, lines 55-60).

Referring to claim 18, Hotta teaches a method further comprising: when a user is editing text of the text image location, directing the editing to the identified (column 11, lines 1-14).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. Claims 1-16 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta U.S. Patent No. 6,345,119 and further in view of Shirasaki U.S. Patent No. 6,341,176.

Regarding to claim 1, Hotta teaches a character recognition device to recognize characters in a captured text image (abstract) comprising:

A multiple recognition (multiple recognition programs) unit to perform character recognition of the text image using at least two different character recognition algorithms (FIG. 4, boxes 9-11, and box 15), each algorithm producing its own recognized characters from the same text image, where the recognized characters (cluster of characters) of the respective algorithms are non-coinciding (not matching recognition results) for some corresponding same locations of the text image and coincide (match recognition results) (the determine of whether or not the recognition results match would include the matching and non-matching results) for other corresponding same locations of the text image (FIG. 14, FIG. 27 and column 16, lines 55-60);

An extraction unit extracting the locations corresponding to the of non-coinciding (misrecognized cluster of characters) characters recognized by the respective recognition algorithms (FIG. 18, S26); and

An output device to output the amended non-coinciding results (column 7, lines 28-34 and FIG. 15, S19).

Hotta does not clearly indicate the teaching of an output device to designate the non-coinciding locations extracted by the extraction device and to output character recognition results for the text image. Shirasaki also teaches a character recognition method that corrects misrecognized characters (abstract) and outputs the non-coinciding characters (misrecognized characters) (FIG. 33, G6-G8) (column 2, lines 65-67 and column 16, lines 43-50) extracted by

the extraction (FIG. 12, element 132). Modifying Hotta's method of recognizing and correcting misrecognized characters according to Shirasaki would able to further output and display the misrecognized character so that the operator can further selected the appropriate character. Also, it is a designer choice of whether to display the misrecognized characters to further verify the recognized characters by the operator. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hotta according to Shirasaki.

Regarding claim 2, as explained in claim 1, Hotta further teaches a first recognition device (first program module) to recognize the characters in the text image using a first character recognition method (one-character recognition) (FIG. 1, element 102); and a second recognition device (second program module) to recognize the characters in the text image using a second character recognition method different from the first character recognition method (personal handwriting characteristics processing) (FIG. 1, element 104);

For claims 3-4, as discussed in claim 1, since Shirasaki teaches the concept of recognize and output the non-coinciding results. It would be obvious that that output device would show the contrast (difference) between the text image and the character recognition result so that the operator would be able to distinguish the misrecognized characters. For further elaboration, please refer to Shirasaki (FIG. 17, C6-C9 and FIG. 44).

Regarding claims 5-6, as discussed in claims 3-4, Shirasaki teaches a character recognition device further comprising:

A display having a display screen to display character recognition results (FIG. 44),

Wherein the output device to contrasts the text image and the character recognition results while displaying the character recognition results on the display screen, and displays a cursor in a

display area of the character recognition results while display the text image in the format that designates the location (horizontal and vertical distance, X and Y) of the text image coordinated at the position of cursor (column 27, lines 1-37).

Referring to claims 7-8, Shirasaki further teaches a character recognition device further comprising an output device to output a symbol that do not coincide instead of the recognized characters (FIG. 4, FIG. 19, FIG. 35, and FIG. 40).

Regarding claims 9-10, Shirasaki discloses a character recognition device further comprising an output device to output the recognized characters with a high evaluation value for the non-coinciding locations that have the same number of recognized characters in an output format that is different from the output format of the non-coinciding locations (FIG. 43-44).

For claims 11-12, Shirasaki also teaches an output device to output the recognized characters of the non-coinciding locations selected using a prescribed standard (threshold value) (FIG. 9, A66) for the non-coincident locations with a different number of recognized characters in a format that is different from the output format for the non-coinciding locations

Regarding claims 13-14, Shirasaki further teaches a character recognition device further comprising an output device to output in a format indicating that the recognition results coincide but have a low recognition liability (level of uncertainty) (column 3, lines 1-26, 59-67 and column 4, lines 25-40).

For claims 15 and 16, please refer back the claims 1-2 for further explanation.

Regarding claim 19, Hotta discloses the output of recognized text of the text image. Hotta does not explicitly teach the display recognized text of the text image. Shirasaki further teaches a displaying means display recognized text of the text image (column 10, lines 9-15).

Modifying Hotta's method of recognizing and correcting misrecognized characters according to Shirasaki would able to display the output of recognized text of the text image. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hotta according to Shirasaki.

10. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hotta U.S. Patent No. 6,345,119 and further in view of Arai et al. U.S. Patent No. 6,697,524.

Regarding claim 20, Hotta discloses the output of recognized text of the text image. Hotta does not disclose the displaying characters in the identified areas based on which recognition algorithm had a highest recognition evaluation for the respective characters. Arai teaches a character recognition process (FIG. 1, element 103-1) wherein it discloses the displaying characters (FIG. 1, element 103-4) in the identified areas based on which recognition algorithm had a highest recognition evaluation for the respective characters (column 18, lines 48-65). Modifying Hotta's method of recognizing and correcting misrecognized characters according to Arai would able to display the output of recognized text of the text image base on the highest recognition evaluation. This would improve processing and therefore, it would have been obvious to one of the ordinary skill in the art to modify Hotta according to Arai.

Contact Information

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Q Le whose telephone number is 571-272-7424. The examiner can normally be reached on 8:30 A.M - 5:30 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on 571-272-7414. The fax phone numbers for the

organization where this application or proceeding is assigned are 703-308-5397 for regular communications and 703-308-5397 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

BL
May 9, 2005